Boreal Toad Project

surveyor packet

Contains:
Waterbodies Cheatsheet
Datasheet Guidelines
Amphibian ID Cheatsheet
Day Trips Calendar
Independent Site Visits
Camping Trips Calendar
**Waterbodies**

and their characteristics

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**Permanent lake/pond/reservoir**
- Larger, deeper bodies of water
- Have aquatic vegetation in shallows
- Connected to other bodies of water
- Have fish inhabitants

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**Temporary pond/pool (vernal/ephemeral)**
- Smaller, shallower pond
- No fish inhabitants
- May see cracking on pond bed
- May see terrestrial plants underwater
- No connections to other ponds or streams

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**Marsh/bog**
- Waterlogged mud with scattered open water
- Mud, decaying matter, grass or moss
- Emergent vegetation throughout
- No defined banks

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**Spring**
- Very deep, usually surface outflow
- Moving sediment at the bottom
- Very cold water
Stream
- Flowing water
- Defined channel
- Can be silt or pebble substrate

Active beaver pond
- Dams
- Lots of open water
- Ponds at different levels/heights
- Complexes of streams and ponds
- Vegetation with diagonal cuts on branches

Inactive beaver pond
- Unkept dams with water flowing over
- Dried out areas where water once was
- Abundant willow trees

Wet meadow
- Expanse of shallow water with emergent vegetation
### Datasheet Guidelines

**Amphibian Survey and Habitat Assessment Field Form, Version 2.0, April 2019**

<table>
<thead>
<tr>
<th>DATE</th>
<th>BEGIN TIME</th>
<th>END TIME</th>
<th>DURATION</th>
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<td>SITE NAME</td>
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<tr>
<td>NAD83 Zone</td>
<td>START UTM:</td>
<td>END UTM:</td>
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<tr>
<td>WEATHER CONDITIONS</td>
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<tr>
<td>WEATHER: Mostly Clear (0-10% cloud)</td>
<td>Partly Cloudy (10-50%)</td>
<td>Mostly Cloud (50-99%)</td>
<td>Overcast (100%)</td>
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<tr>
<td>WIND: Calm</td>
<td>Light</td>
<td>Strong</td>
<td>AIR TEMP. (°C):</td>
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**AMPHIBIANS DETECTED DURING SURVEYS?**

- Yes
- No

<table>
<thead>
<tr>
<th>Waterbody #</th>
<th>Species</th>
<th># Egg mass</th>
<th># Tadpole</th>
<th># Metamorph</th>
<th>Juv./Adult mm</th>
<th>Survey Method</th>
<th>Photo No.</th>
<th>PIT status (recap/new)</th>
<th>PIT tag number</th>
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**Additional amphibian notes:**

- Chytrid swab taken? Yes No
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- 

**Site Description**

**FISH PRESENT:**

- Yes
- Unknown
- No

**FISH SPECIES:**

- 

**ENTIRE SITE SEARCHED:**

- Yes
- No

**IF NO, INDICATE AREA (e.g., northern half of lake shore):**

- 

**ORIGIN:**

- Natural
- Man-made
- Uncertain

**DRAINAGE:**

- Permanent
- Intermittent
- None

**Site description and comments:**

**DISTURBANCE**

**Use scale below for each 0 not present, 5 - high disturbance**

- Residential
- Water Mgmt.
- Livestock manure
- ATV track
- Recreational
- Mining
- Livestock tracks > 13 cm deep
- Road
- Agricultural & Grazing
- Unnatural bare soil
- Grazed veg (by livestock)
- Hiking trail

**Notes on disturbances seen:**

**Disturbance Scale:**

- 0: Not present
- 1: Minimal (e.g., disturbance very light, or of greater intensity localized in minimal areas)
- 2: Minor (e.g., disturbance of low intensity or occasional occurrences of higher intensity)
- 3: Moderate (e.g., disturbance of moderate intensity and common)
- 4: Severe (e.g., disturbance common to frequent, and of high intensity)
- 5: Extreme (e.g., disturbance widespread and of high intensity)

**Old signs of disturbance can be written in the notes**

**Man-made indicators:**

- Berms, perfectly round or straight edges, concrete barriers.

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**First and last names of all observers present.**

Indicate organization and if volunteer

**Solo surveyors:**

Include UTMs of where the toad was in this section instead

**Permanent:**

Continuous flow year round

**Intermittent:**

Flow dependent on season/weather

**None:**

Closed system

Include elevation when known.

(Found on intern GPS by pressing “mark” and then “quit”)

- Juvenile: <50mm
- Adult: ≥50mm
This top section will describe the entire site as a whole. Below will focus on one waterbody at a time.

Breeding water bodies are still, open, areas of water.

Choosing just ONE of the waterbodies to describe each time.

Emergent veg: Above the surface of the water. Submergent veg: completely below surface of the water.

Turbid: cloudy or opaque from suspended matter.

Indicate what egg/tadpole species in the notes section.

Describe the water where the meter is placed.

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### Amphibian Survey and Habitat Assessment Field Form, Version 2.0, April 2019

**COLLECT DATA AT UP TO THREE REPRESENTATIVE WATERBODIES AND THEN RECORD GENERAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>General Characteristics of All Site Waterbodies</th>
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<tr>
<td><strong># OF POTENTIAL BREEDING WATERBODIES:</strong> 1 2 3-5 &gt;5</td>
<td>TURBIDITY: Mostly turbid Mixture of turbid/clear Mostly clear</td>
</tr>
<tr>
<td><strong>TYPES PRESENT:</strong> permanent lake/pond temporary pool/pond marsh/bog spring stream</td>
<td>(circle all applicable) active beaver pond inactive beaver pond wet meadow with standing water other:</td>
</tr>
<tr>
<td><strong>EMERGENT VEG. IN WATER</strong> Abundant Frequent Occasional Absent</td>
<td><strong>SURFACE ALGAE IN WATER</strong> Abundant Frequent Occasional Absent</td>
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<td><strong>CHARA IN WATER</strong> Abundant Frequent Occasional Absent</td>
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<td><strong>MAX DEPTH:</strong> &lt;1 m 1-2 m &gt;2 m</td>
<td><strong>EMERGENT VEG ALONG SHORELINES</strong> Abundant Frequent Occasional Absent</td>
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<tr>
<td><strong>SHALLOW ALONG SHORELINES?</strong> Abundant Frequent Occasional Absent</td>
<td><strong>SILT/MUD SUBSTRATE</strong> Abundant Frequent Occasional Absent</td>
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</tbody>
</table>

### Waterbody 1

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<tr>
<th>WATERBODY TYPE: permanent lake/pond temporary pool/pond marsh/bog spring stream</th>
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<tr>
<td><strong>% WATER WITH EMERGENT VEG:</strong> 0 1-25 &gt;25-50 &gt;50</td>
<td><strong>% SURFACE ALGAE:</strong> 0 1-25 &gt;25-50 &gt;50</td>
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<tr>
<td><strong>% WATER WITH SUBMERGENT VEG:</strong> 0 1-25 &gt;25-50 &gt;50</td>
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**Collect water chemistry data, below, near where amphibians are seen, or at one or more random location in shallow water (<20 cm) near shore. Indicate water depth and whether egg mass and tadpole were seen at measurement location.**

<table>
<thead>
<tr>
<th>Waterbody #</th>
<th>Egg mass?</th>
<th>Tadpole?</th>
<th>Stand. or Flow</th>
<th>Depth of water (cm)</th>
<th>pH</th>
<th>EC (μS)</th>
<th>Temp (°C)</th>
<th>Color</th>
<th>Turbidity Tube (at water ±20 cm deep)</th>
<th>Notes and/or Photo #s</th>
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**Chara**
Amphibian Identification

**Eggs**

**Boreal Toad**
- Clear with black spots in the middle
- Laid in long strings
- Can be hundreds or thousands
- Usually wrapped around and through submerged vegetation

**Boreal Chorus Frog**
- Laid in clumps on strands of vegetation below the water
- Usually 50 - 200 in one clump

**Tiger Salamander**
- Can be laid individually or in clumps
- When laid in clumps have an extra gelatinous layer around them compared to chorus frogs
Amphibian Identification
Larva / Tadpoles

**Boreal Toad**
- Jet black all over
- Eyes inset on top of their head
- Smooth outline when viewed from above
- Tear drop shaped

**Boreal Chorus Frog**
- Dark in colour, but not even black
- Can have flecks of olive or gold
- Eyes on the side of their head
- Oval in shape

**Tiger Salamander**
- Feathery gills on either side of their head
- More distinctive ‘head’ bode’ and ‘tail’
- Long bodies
Boreal Toad
- Olive green to brown in color.
- "Warts" across back.
- Creamy dorsal (back) stripe.
- Inky dark spots on underside.
- Usually 2-4 in long.
- Do not call, only a panicked chirping when handled.

Boreal Chorus Frog
- Green/brown in color.
- Dark eye stripe from snout to shoulder on each side of their head.
- Three parallel broken stripes on their back.
- Small in size: 3/4-1 1/2 in long.
- Call resembles running your thumb nail across a comb.

Tiger Salamander
- Only salamander species in Utah.
- Brown, black, grayish, sometimes with spots or stripes and yellowish bellies.
- Bulging eyes with round snouts.
- Usually 6-12 in long.
Join us in the Field: Day Trips

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Scan to sign up!
### August

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### Join us in the Field: Camping

#### July

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- **1 July**: Manti La Sals
- **7 July**: Boulder Mountain
- **8 July**: Thousand Lake Mountain
- **14 July**: Monroe Mountain
- **21 July**: Strawberry Reservoir Night Survey
- **28 August**: Uintas - Duchesne

Scan to sign up!
Build your Own Adventure!

As we continue to monitor toad populations across the state, we’re looking for experienced outdoor enthusiasts to independently monitor areas to document amphibian presence & habitat conditions.

We have our areas of interest, but these independent surveys can be done anywhere in Utah where you’re hiking above 7,200ft!

We request that volunteers monitor a site at least twice during the field season (June-September).

Volunteers can check-out Toad Backpacks from the Hogle Zoo main entrance or the Sageland Collaborative office in downtown SLC - these are equipped with all the materials you’ll need to complete your surveys!

Areas of Interest:
Oquirrhs
Millcreek Canyon
Big Cottonwood Canyon
Little Cottonwood Canyon
Uintas
Strawberry River

Scan to sign up!